Agent File No.   17625-3US   Ottawa, Canada
                                                 Date: February 28, 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: OMID MCDONALD

Serial No.:   09/987,828

Filed: November 16, 2001

Title: Identifying Changed Records in a File Stored On An Electronic Token

Group Art Unit: 2163

Examiner: Hanh B. THAI   Tel: 571-272-4029

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Sir:

APPELLANT'S BRIEF UNDER 37 C.F.R. § 1.192

Pursuant to 37 C.F.R. § 1.191, the Applicant submitted a Notice of Appeal from the Examiner to the Board of Patent Appeals and Interferences on November 28, 2007. Specifically, the Applicant takes appeal from the Examiner's rejection of claims 2-22 and 24-25 under 35 U.S.C. § 103(a). The Notice of Appeal was filed in response to the Final Action mailed May 30, 2007 and advisory Action mailed August 13, 2007. Pursuant to 37 C.F.R. § 1.192, the Applicant now submits the following brief.

1)   **Real Party in Interest**

The real party of interest is Axalto S.A., by virtue of:

- an assignment executed by the inventors in favour of Simbit Corporation recorded at Reel/Frame 012310/0503; and

- an assignment executed by or on behalf of Simbit Corporation in favor of Axalto SA recorded at Reel/Frame 016688/0176.

2)   Related Appeals and Interferences

None.

3)   Status of Claims

Pursuant to the Final Action mailed May 30, 2007, the status of the claims is as follows:

- claims 2-22 and 24-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of United States Patent No. 6,968,209 (Ahlgren et al.) in view of United States Patent No. 6,879,989 (Dietrich et al..).

In Applicant's response filed July 30, 2007 to the Final Action mailed May 30, 2007, Applicant also made reference to a rejection of claims 2-22 and 24-25 under 35 U.S.C. § 112. This reference is in error, as no such rejection is set out in the Final Action mailed May 30, 2007

4)   Status of Amendments

Applicant's response filed July 30, 2007 to the Final Action mailed May 30, 2007 contained no claim amendments. Applicant's response filed November 28, 2007 to the Advisory Action mailed August 13, 2007 contained proposed amendments in claims 6 and 15, which were intended to place these claims into better condition for appeal. However, in the Advisory Action dated December 14, 2007, the Examiner refused entry of amended claims 6 and 15, on the ground that the proposed claim amendments in clam 6 alter the scope of claims 2-14 that would require further consideration. Accordingly, the claims currently stand as amended in Applicant's response filed on April 18, 2007. A copy of the current claims is provided in the Claims Appendix below.

5)   Summary of Claimed Subject Matter

The present invention is directed to methods and systems for identifying changed records in a file stored on an electronic token, and, more particularly, to methods and systems for synchronizing records stored an electronic token with a centralized data store. Claims 6 and 15 are independent claims defining features of the present invention.

Claim 6 defines a method applied by an electronic token comprising a microprocessor and a memory [10-16, FIG. 1; 12-16 and 150, FIG. 6] for identifying changed records [208 FIG. 6] among a plurality of records [202, FIG. 6] stored in the memory [16] of the electronic token. The method comprises:

for each one of the plurality of records [52 and 62, FIG. 2 and paras 32 et seq.]:

> calculating in the electronic token a respective change detection code (CDC) associated with the record [66, FIG. 2; para 33]; and

> comparing in the electronic token the calculated CDC with a corresponding stored CDC associated with the record in order to determine if the record has been changed since the stored CDC was calculated [68, FIG. 2; para 33]; and

if the calculated CDC of at least one of the plurality of records is not equal to the corresponding stored CDC, preparing a Short message Service (SMS) message in the electronic token and sending the SMS message [74-76, FIG. 2; para 34] from the electronic token to a registering element [80, FIG. 3], which SMS message includes a content of at least one record which has been identified as changed, and saving the calculated CDC of the record as the stored CDC of the record [74-76, FIG. 2; para 34].

Claim 15 defines an apparatus for providing a service to a subscriber having an electronic token. The apparatus comprises:

a change detection applet [200, FIG. 6] stored on an electronic token [150, FIG. 6 including a microprocessor and a memory [12 and 16, FIG. 6], the electronic token storing a plurality of records [202, FIG. 6] and a set of change detection codes (CDCs) [206, FIG. 6], each CDC [206] being associated with a respective stored record [202] and identifying a version of the stored record, said applet [200] being designed to be executed by the microprocessor [12] of the electronic token [150, FIG. 6] and for identifying any record that has been changed since a respective change detection code (CDC) associated with the record was stored in the token, by calculating a current CDC for the record [66, FIG. 2; para 33] and comparing the current CDC with the stored CDC [68, FIG. 2; para 33], the applet being further designed to send a Short Message Service (SMS) message to a registering element when the current CDC does not match the stored CDC [74-76, FIG. 2; para 34], the SMS message including a content of the associated record, the applet being further designed to save the calculated CDC as the stored CDC when the current CDC does not match the stored CDC [74-76, FIG. 2; para 34].

6)   **Grounds of Rejections to be Reviewed on Appeal**

The following grounds of rejection are presented for review in the present appeal:

- Whether claims 2-22 and 24-25 are unpatentable under 35 U.S.C. § 103(a), over the teaching of United States Patent No. 6,968,209 (Ahlgren et al.) in view of United States Patent No. 6,879,989 (Dietrich et al..)

7)   **Argument**

For the sake of brevity, the following arguments are focussed on indipendent claims 6 and 15, which are believed to be dispositive of the issues raised in the present appeal. In the Final Office Action mailed May 30, 2007, the Examiner argues:

"Regarding claim 6, Ahlgren discloses a method applied by an electronic token for

identifying changed records in a memory of the electronic token, the method comprising:

calculating in the memory a change detection code (CDC) for each record in the memory and storing the respective CDCs in the memory of the electronic token (abstract; col.2, lines 59-62 and col. 4, lines 9-22, Ahlgren discloses calculating checksum stored in the SIM card reads on the claimed "calculating in the memory a change detection code");

comparing in the memory the calculated CDC with the stored CDC associated with the record in order to determine if the record has changed since the stored CDC was calculated (abstract; summary; col. 4, lines 24-34 and lines 58-65, Ahlgren) and

if the calculated CDC is not equal to the stored CDC, and saving the calculated CDC of the record as the stored CDC of the record (abstract; summary and col. 4, lines 35-54, Ahlgren).

Regarding claim 15, Ahlgren discloses an apparatus for providing a service to a subscriber having an electronic token, the apparatus comprising:

a change detection applet stored on the electronic token including a microprocessor and a memory, the electronic token storing a set of records and change detection codes (CDCs) respectively associated with the records respectively associated with the records, the CDCs identifying a version of the stored record (abstract; col.2, lines 59-62 and col. 4, lines 9-22, Ahlgren discloses log file of records and a checksum stored in the SIM card reads on the claimed "electronic token storing a set of records and change detection codes"), said applet being adapted to be executed by the

microprocessor of the electronic taken and adapted to identify any record that has been changed since a change detection code (CDC) for the record was stored in the card (summary; col. 4, lines 24-34 and lines 58-65, Ahlgren) by calculating a current CDC for the record and comparing such current CDC with the stored CDC (summary; col. 4, lines 24-65, Ahlgren)."

Both of the above rejections, and indeed all of the rejections set out in the Final Action mailed May 30, 2007 relate to the wording of the claims as they existed prior to Applicant's response filed on April 18, 2007. As such, the claims rejections set out in the Final Action mailed May 30, 2007 fail to consider the claim amendments submitted April 18, 2007. It is believed that the Final Action mailed May 30, 2007 is improper for at least this reason.

In the Advisory Action mailed August 13, 2007, the Examiner declined to address this deficiency, arguing that:

"... arguments presented by applicant were covered in the final office action, applicant does not raise any new arguments that would require a specific response."

With respect, it is not understood how Applicant's argument regarding the impropriety of the Final Action can be considered to either have been covered in the Final Action, or as failing to raise any arguments requiring a specific response. On the contrary, it is believed that the withdrawal of the Final Action mailed May 30, 2007 and issuance of a new Office Action that properly considers the language of the claims as amended by Applicant's response filed on April 18, 2007 would have been appropriate.

To the extent that the rejections set out in the Final Action mailed May 30, 2007 might be applied to the claims as amended by Applicant's response filed on April 18, 2007, Applicant believes that none of the cited references, taken alone or in any combination, teach or fairly suggest the limitations of the claims. In particular, neither Ahlgren et al nor Dietrich et al. teach or fairly suggest the combination of:

- calculating <u>in the electronic token</u> a respective change detection code (CDC) associated with the record

- comparing <u>in the electronic token</u> the calculated CDC with a corresponding stored CDC associated with the record...; and

- if the calculated CDC of at least one of the plurality of records is not equal to the corresponding stored CDC, preparing a Short message Service (SMS) message <u>in the electronic token</u> and sending the SMS message <u>from the electronic token</u> to a registering element.

With respect to the first of the above-noted elements, Ahlgren et al fails to teach or fairly suggest that a checksum is calculated <u>in the electronic token</u>, as required by the claims. In fact, Ahlgren et al do not explicitly teach where the checksum is are calculated, except to broadly state that checksums are calculated in a conventional manner (col 4, lines 11-14). As pointed out in Applicant's response filed April 18, 2007, electronic tokens such as the SIM cards 50 of Ahlgren et al. are well known (and commonly referred to) as "resource-constrained" devices, because of their extremely low processing ability. As a result, if any functionality requires a specific calculation to be performed, such calculations are normally executed by the handset hosting the electronic token. This is typically the case, even when the software for controlling the calculation is stored on the token. Accordingly, in the absence of a specific teaching of where the calculation is to be performed, the person of ordinary skill will naturally conclude that the algorithm of FIG. 4 (and thus the calculation of checksum values) should be performed by the handset hosting the electronic token, and not by the electronic token itself as required by the present claims. The person of ordinary skill in the art will find this conclusion to be supported by Ahlgren's teaching that checksums are stored in <u>both</u> the SIM card and a change log (210 FIGs. 2 and 3) maintained by the handset (20, 300 FIGs. 2 and 3) hosting the electronic token (See FIGs. 2-4, and col 4 lines 34-54)

Dietrich et al. do not mention change detection codes (CDCs), and so provide no teaching at all in this respect.

With respect to the second of the above-noted elements, Ahlgren et al fails to teach or fairly suggest that the calculated CDC is compared with a corresponding stored CDC associated with the record, nor that this comparison is performed by in the token, both as required by the claims. In fact, Ahlgren appears to teach directly away from these features, by requiring that a checksum stored in the SIM is compared with a corresponding checksum stored in the host device (See Col 4, lines 24-34 and col 4, lines 54-64 and FIG. 4). In that respect it is important to note that claims 6 and 15 define a sequence of steps, namely: a checksum is calculated (as described above); and then this calculated checksum is then compared to a stored checksum associated with the record. Ahlgren does not teach this sequence of steps. Rather Ahlgren explicitly teaches that a checksum is calculated _after_ the comparison. More particularly, and as shown in FIG. 4, the checksums stored in the SIM and the host device (change log) are compared at 410, to determine whether the change log is valid. If the change log is valid, then a new checksum is calculated and stored in both the SIM and the host device (430 FIG. 4). Thus it will be seen that Ahlgren teach a sequence of steps which is the _exact_ _opposite_ of the sequence defined in the claims. Ahlgren provides no motivation for modifying the process of FIG. 4 to reverse the order of steps, and indeed offers no prospect that such a modification would even be usable.

Since Ahlgren explicitly teaches that the checksum is calculated _after_ the comparison step, it follows that Ahlgren cannot possibly teach comparing the calculated checksum to a corresponding stored checksum, as asserted in the Final Action mailed May 30, 2007.

With reference to the location where the comparison is performed, it will be noted that Ahlgren et al do not explicitly teach where the comparison is performed (or more correction, which device performs the comparison). As noted above, however, in the absence of a specific teaching to the contrary, the person of ordinary skill will naturally conclude that the algorithm of FIG. 4 and the comparison of checksum values, will be performed by the handset hosting the electronic token, and not by the electronic token itself as required by the present claims.

Here again, Dietrich et al. do not mention change detection codes (CDCs), and so provide no teaching at all with respect to comparison of CDCs or checksums.

Finally, the Examiner has admitted that Ahlgren et al "does not disclose preparing a SMS message in the electronic token and sending the message to a registering element." According to the Final Action mailed May 30, 2007, "Dietrich discloses short message service for a mobile radio network including generating a short message service and sending the message to the subscriber (see summary; col. 2, line 48 to col. 3, line 10, Dietrich)". Even if this assertion, or the Examiner's conclusions drawn from it, were correct (which applicant does not admit), the combination of Ahlgren and Dietrich would still fail to teach or fairly suggest the elements of the claims, as described above.

With reference to the short message service, Dietrich clearly fails to teach or fairly suggest anything equivalent to the claimed function of preparing an SMS message in the electronic token and sending same to a registering element. In fact, Dietrich describes a system in which two types of SMS messages are used, namely: so-called "normal" SMS messages, which are displayed on the screen of the receiving handset; and "updating" SMS messages, which are used directly by the receiving handset for updating data stored in the SIM. The person of ordinary skill in the art will instantly recognise that in both of these cases, the SMS messages in question are being received by the handset. Obviously, this is the exact opposite of preparing and sending SMS messages, as required by the claims. Furthermore, in the system of Dietrich, the SMS messages are being received by, and processed by the handset. There is nothing in this teaching that even remotely suggests preparing an SMS message in the electronic token, and then sending the SMS message from the electronic token, both as required by the claims.

In light of the foregoing, it is submitted that claims 6 and 15 and their dependencies are in fact patentable under 35 U.S.C. § 103(a), over the teaching of United States Patent No. 6,968,209 (Ahlgren et al.) in view of United States Patent No. 6,879,989 (Dietrich et al.). Reconsideration and withdrawal of the claim rejections under 35 U.S.C. § 103(a) in view of Ahlgren et al. and Dietrich et al. is believed to be in order, and such action is courteously solicited.

8)   Claims Appendix

Claims involved in the Appeal

1.   [CANCELLED]

2.   [PREVIOUSLY AMENDED] A method as claimed in claim 6, wherein calculating the respective CDC comprises calculating a cyclic redundancy check (CRC).

3.   [PREVIOUSLY AMENDED] A method as claimed in claim 6, wherein comparing the calculated CDC with the corresponding stored CDC further comprises determining information regarding the type of change, the information being input to a predefined algorithm that executes in the memory.

4.   [PREVIOUSLY AMENDED] A method as claimed in claim 3, wherein the SMS message is issued to an electronic token reader in which the electronic token is docked, the SMS message containing at least one parameter regarding the change for use by the registering element to which the message is sent by a token-resident applet via the electronic token reader.

5.   [PREVIOUSLY AMENDED] A method as claimed in claim 4, wherein further comprising setting a response pending flag which is cleared if an acknowledgement of the SMS message is received, wherein the flag is used to indicate that an SMS message has not been acknowledged.

6.   [PREVIOUSLY AMENDED] A method applied by an electronic token comprising a microprocessor and a memory for identifying changed records among a plurality of records stored in the memory of the electronic token, the method comprising:

for each one of the plurality of records:

calculating in the electronic token a respective change detection code (CDC) associated with the record ; and

comparing in the electronic token the calculated CDC with a corresponding stored CDC associated with the record in order to determine if the record has been changed since the stored CDC was calculated; and

if the calculated CDC of at least one of the plurality of records is not equal to the corresponding stored CDC, preparing a Short message Service (SMS) message in the electronic token and sending the SMS message from the electronic token to a registering element, which SMS message includes a content of at least one record which has been identified as changed, and saving the calculated CDC of the record as the stored CDC of the record.

7.   [PREVIOUSLY AMENDED] A method as claimed in claim 5, wherein determining comprises using a flag set in association with the stored CDC, in conjunction with the values of the stored CDC and calculated CDC to determine if the record was changed since a last acknowledged SMS message related to the record was sent.

8.   [PREVIOUSLY AMENDED] A method as claimed in claim 4, wherein upon receipt of the SMS message, the registering element performs at least one of: synchronization of data across multiple data stores; update of a system with respect to the record; back-up of the record; and provision of a service feature in dependence on the change to the record.

9.   [PREVIOUSLY AMENDED] A method as claimed in claim 8, wherein the short message service (SMS) message is issued to a service provider that has access to the registering element.

10.   [PREVIOUSLY AMENDED] A method as claimed in claim 9, wherein the predefined algorithm comprises:

receiving the information relating to the change;

formulating a notice of change (NOC) message; and

inserting as many NOC messages as possible into the SMS message before sending the SMS message.

11. [PREVIOUSLY AMENDED] A method as claimed in claim 10, wherein the electronic token is a subscriber identity module and comparing further comprises applying a comparison algorithm that executes on the subscriber identity module, the comparison algorithm being adapted to compare a CDC of each of a plurality of abbreviated dialing numbers (ADN) in the file; and the step of issuing comprises directing a SMS message to the registering element, which is adapted to perform at least one of the following: ensure conformity of the file with other versions of the file stored elsewhere; back-up the file; and, provide a service feature in dependence on the change.

12. [PREVIOUSLY AMENDED] A method as claimed in claim 8, wherein sending comprises formulating the message by inserting the at least one parameter into respective fields of the message, and forwarding the message to the registration element.

13. [PREVIOUSLY AMENDED] A method as claimed in claim 12, wherein formulating comprises inserting a record identifier, and information that specifies the change.

14. [PREVIOUSLY AMENDED] A method as claimed in claim 13, wherein formulating comprises inserting a value that indicates one of the following: the record was added; the record was deleted; and the record was modified.

15. [PREVIOUSLY AMENDED] An apparatus for providing a service to a subscriber having an electronic token, the apparatus comprising:

a change detection applet stored on an electronic token including a microprocessor and a memory, the electronic token storing a plurality of records and a set of change detection codes (CDCs), each CDC being associated with a respective stored record and identifying a version of the stored record, said applet being designed to be executed by the microprocessor of the electronic token and for identifying

any record that has been changed since a respective change detection code (CDC) associated with the record was stored in the token, by calculating a current CDC for the record and comparing the current CDC with the stored CDC, the applet being further designed to send a Short Message Service (SMS) message to a registering element when the current CDC does not match the stored CDC, the SMS message including a content of the associated record, the applet being further designed to save the calculated CDC as the stored CDC when the current CDC does not match the stored CDC.

16. [ORIGINAL] An apparatus as claimed in claim 15, wherein the change detection applet calculates a cyclic redundancy check (CRC) to derive the current CDC.

17. [PREVIOUSLY AMENDED] An apparatus as claimed in claim 16, further comprising a registering element adapted to receive the message and use a content of the message to perform at least one of the following: back up records for which the message was generated; synchronize the file with other files remotely stored but commonly associated with a subscriber; and, provide a service dependent upon the detected change.

18. [ORIGINAL] An apparatus as claimed in claim 15, wherein the electronic token is docked in a communications enabled device that comprises an electronic token reader adapted to exchange data in conformity with a predetermined protocol.

19. [PREVIOUSLY AMENDED] An apparatus as claimed in claim 18, wherein the electronic token is one of: a subscriber identity module (SIM) card compliant with a global system for mobile communications (GSM) standard; and a universal SIM (USIM) card.

20. [ORIGINAL] An apparatus as claimed in claim 18, wherein the communications enabled device is adapted to function as a short message service (SMS) enabled telephone.

21.   [PREVIOUSLY AMENDED]   An apparatus as claimed in claim 15, further comprising a data store for storing a set of response pending flags that are associated with a list of records in the file, and the change detection applet is further adapted to use the set of response pending flags to determine if a record may have been changed since a last SMS message for the record was acknowledged.

22.   [PREVIOUSLY AMENDED] An apparatus as claimed in claim 21, wherein the set of response pending flags comprises at least two flags used to encode change information, and the change detection applet is further adapted to use the plurality of flags, in conjunction with the stored CDC and current CDC, to determine if an SMS message related to the record is to be sent.

23.   [CANCELLED]

24.   [PREVIOUSLY AMENDED]   A change detection applet stored and executed on an electronic token including a microprocessor and a memory, the electronic token storing a plurality of records and a set of change detection codes (CDCs), each CDC being associated with a respective stored record and identifying a version of the stored record, said applet being designed to be executed by the microprocessor of the electronic token for identifying any record that has been changed since a respective change detection code (CDC) associated with that record was stored in the token, by calculating a respective current CDC for each record and comparing the current CDC with the corresponding stored CDC of the record, the applet being further designed to prepare and send a Short Message Service (SMS) message to a registering element when the current CDC does not match the stored CDC, the SMS message including a content of the record, the applet being further designed to save the calculated CDC as the stored CDC when the current CDC does not match the stored CDC.

25.   [PREVIOUSLY AMENDED]   An electronic token storing and running an applet as claimed in claim 24.
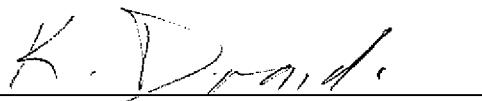
9)   Evidence Appendix

None

10)   <u>Related Proceedings Appendix</u>

None

Early action in respect of this Appeal will be greatly appreciated.

Respectfully submitted,
OMID MCDONALD

By: _____

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